

ELECTROSURGICAL INSTRUMENTS WITH REPLACEABLE END-EFFECTORS AND INHIBITED SURFACE CONDUCTION

ABSTRACT OF THE DISCLOSURE

Improved robotic surgery end-effectors include at least one insulation material for inhibiting surface conduction of electrical current in a proximal direction, from a distal active electrode toward the proximal end of the end-effector and toward the rest of the surgical instrument itself. Some embodiments include two layers of insulation to further prevent proximally-directed current. By inhibiting proximal current flow, the end-effectors prevent unwanted patient burns as well as electricity-related wear and tear in and around the area where the end-effector is coupled with the rest of the surgical instrument. In various embodiments, such end-effectors are preferably removably coupleable with a robotic surgical instrument.